

Abstract

A switching regulator circuit is arranged to provide a constant current to a load. The switching regulator circuit is operated in discontinuous current mode such that an inductor stores energy in a first part of an oscillation cycle, and discharges in a second
5 part of the cycle. The trigger mechanism for the oscillator is disabled when the charged inductor couples energy to the load, and enabled after the inductor is detected as discharged. The energy stored in the inductor is proportional to the square of the on-time associated with switching regulator. Constant voltage load devices such as LEDs for a display can be driven by the switching regulator in an open-loop mode such that the
10 current in the load devices is a linear function of the on-time.

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